

COMPOSITIONS AND METHODS FOR
ALTERING THE DISULFIDE STATUS OF PROTEINS

ABSTRACT OF THE DISCLOSURE

5 Compositions and methods for the alteration of the disulfide status of plant
proteins are provided. Novel nucleotide molecules, comprising nucleotide sequences for
thioredoxin *h* and NADPH-thioredoxin reductase, and the proteins encoded thereby are
provided. The nucleotide sequences can be used to transform plants alone or in
combination with other sequences, such as sequences encoding NADPH generating
10 enzymes, to manipulate the thioredoxin *h* system and alter the protein disulfide status in
plants. Transformed plants, plant cells, plant tissues, seed and grain are provided.